

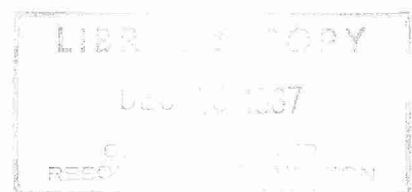
1966 OPERATING SUMMARY

# **FENELON FALLS**

## **water treatment plant**

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**ONTARIO WATER RESOURCES COMMISSION**

*Division of Plant Operations*

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ONTARIO WATER RESOURCES COMMISSION  
OFFICE OF THE GENERAL MANAGER

Members of the Fenelon Falls Local Advisory Committee,  
Village of Fenelon Falls.

Gentlemen:

We are pleased to submit to you the 1966 Operating Summary for the  
Fenelon Falls Water Treatment Plant, OWRC Project No. 60-W-57.

It is hoped that our joint participation in efforts to protect your water  
supply will have even more success in the coming year.

Yours very truly,

A handwritten signature in dark ink, appearing to read "D. S. Caverly".

D. S. Caverly,  
General Manager.

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ONTARIO WATER RESOURCES COMMISSION

801 BAY STREET

TORONTO 5

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COMMISSION SECRETARY

General Manager,  
Ontario Water Resources Commission.

Dear Sir:

I am happy to present you with the 1966 Operating Summary for the Fenelon Falls Water Treatment Plant, OWRC Project No. 60-W-57.

The report offers a concise summary of operating data for the year and comparisons with previous years where these are applicable and significant.

Yours very truly,

A handwritten signature in cursive script, appearing to read "B. C. Palmer".

B. C. Palmer, P. Eng.,  
Director,  
Division of Plant Operations.

## FOREWORD

● This operating summary contains complete information on the management of the project during 1966. It contains a concise review of the year's plant operation, significant financial details, and a visual presentation in graphs and charts of technical performance.

The information will be of value to interested parties in assessing the adequacy of the project at this time and its ability to meet future requirements.

The report is the result of co-operation by several groups within the Division of Plant Operations. These include the statistics section and the technical publications section. The Division of Finance and the draughting section of the Division of Sanitary Engineering were also closely associated with its publication.

The Regional Operations Engineer, however, has had the primary responsibility for the content, and will be happy to answer any questions regarding it.

## **C O N T E N T S**

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# **FENELON FALLS** **water treatment plant**

operated for

THE VILLAGE OF FENELON FALLS

by the

ONTARIO WATER RESOURCES COMMISSION

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Assistant Director: C. W. Perry  
Regional Supervisor: D. A. McTavish  
Operations Engineer: R. Kauppinen

801 Bay Street              Toronto 5



## **'66 REVIEW**

The total operating costs decreased by about 9% from \$7884.37 in 1965 to \$7241.30 in 1966. The cost per thousand gallons of raw water treated, which does not include power costs, also decreased from \$0.19 to \$0.16.

A substantial flow increase occurred once again this year. A total of 45.36 million gallons was treated this year compared to 40.73 million gallons in 1965 and 27.88 million gallons in 1964. This represents an 11.3% increase over 1965, and a 63% increase over 1964 flows.

The average daily flow for the year was 124,000 gallons per day compared with 110,000 gallons per day in 1965. It should be noted that during July, 1966, an average of 286,000 gallons of water per day was pumped to the system; whereas during the peak month of 1965, 172,000 gallons per day were processed. This is a 67% increase. The lowest flows occurred in April where a monthly average of 69,000 gallons per day was pumped to the system.

A total of 719 pounds of chlorine was used compared to 924 pounds in 1965. This was equivalent to a dosage rate of 1.59 ppm, a decrease of 30% from the 1965 dosage rate of 2.27 ppm. A bacteriological sampling programme was carried out during the year which indicated that the water was satisfactory for consumption.

## PROJECT COSTS

|   |                     |
|---|---------------------|
| NET CAPITAL COST (Final)  | \$303,660.14        |
| DEDUCT - Payments from<br>Municipalities                              | <u>2,531.00</u>     |
| Long Term Debt to OWRC  | <u>\$201,129.14</u> |
| Debt Retirement Balance at Credit<br>(Sinking Fund) December 31, 1966 | \$ <u>27,312.62</u> |
| Net Operating   | \$ 7,241.30         |
| Debt Retirement   | 6,077.00            |
| Reserve   | 1,837.18            |
| Interest Charged  | 16,942.22           |
| TOTAL   | \$ <u>32,097.70</u> |

### RESERVE ACCOUNT

|                              |                    |
|------------------------------|--------------------|
| Balance at January 1, 1966   | \$ 7,106.01        |
| Deposited by Municipality    | 1,837.18           |
| Interest Earned              | <u>423.44</u>      |
|                              | \$ 9,366.63        |
| Less Expenditures            | <u>230.38</u>      |
| Balance at December 31, 1966 | \$ <u>9,136.25</u> |

## MONTHLY OPERATING COSTS

| MONTH | TOTAL EXPENDITURE | PAYROLL | CASUAL PAYROLL | CHEMICAL | GENERAL SUPPLIES | REPAIRS & MAINTENANCE | SUNDRY |
|-------|-------------------|---------|----------------|----------|------------------|-----------------------|--------|
| JAN   | 382.49            | 336.26  | 7.62           |          | 4.28             | 10.25                 | 23.48  |
| FEB   | 342.93            | 316.56  |                |          | 6.69             |                       | 19.68  |
| MARCH | 409.56            | 330.76  |                |          | 64.92            |                       | 13.88  |
| APRIL | 578.14            | 503.24  |                |          | 28.67            |                       | 46.23  |
| MAY   | 399.27            | 330.76  | 17.78          |          | 26.52            |                       | 24.21  |
| JUNE  | 558.39            | 385.63  | 106.68         |          | 20.15            |                       | 45.93  |
| JULY  | 570.63            | 325.64  | 193.04         |          | 26.32            |                       | 25.63  |
| AUG   | 838.25            | 613.39  | 172.22         |          | 28.74            |                       | 23.90  |
| SEPT  | 964.32            | 798.24  | 102.44         |          | 33.77            |                       | 29.87  |
| OCT   | 692.91            | 399.21  | 10.00          | 103.13   | 43.33            | 14.09                 | 123.15 |
| NOV   | 441.05            | 345.08  | 40.30          |          | 10.19            |                       | 45.48  |
| DEC   | 1063.36           | 263.42  |                |          | 113.39           | 597.43                | 89.12  |
| TOTAL | 7241.30           | 4948.19 | 650.08         | 103.13   | 406.97           | 622.37                | 510.56 |

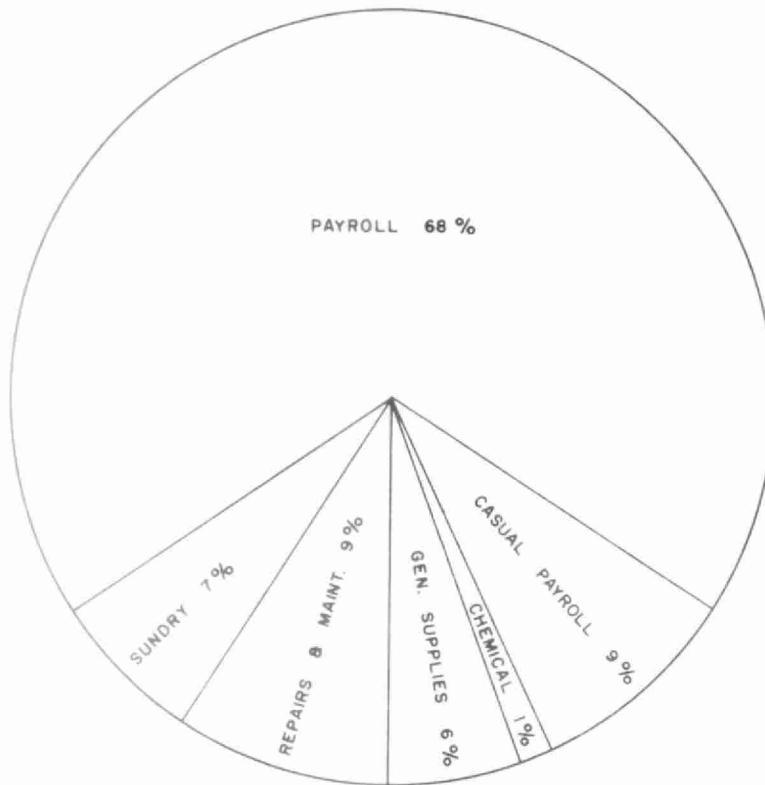
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## YEARLY OPERATING COSTS

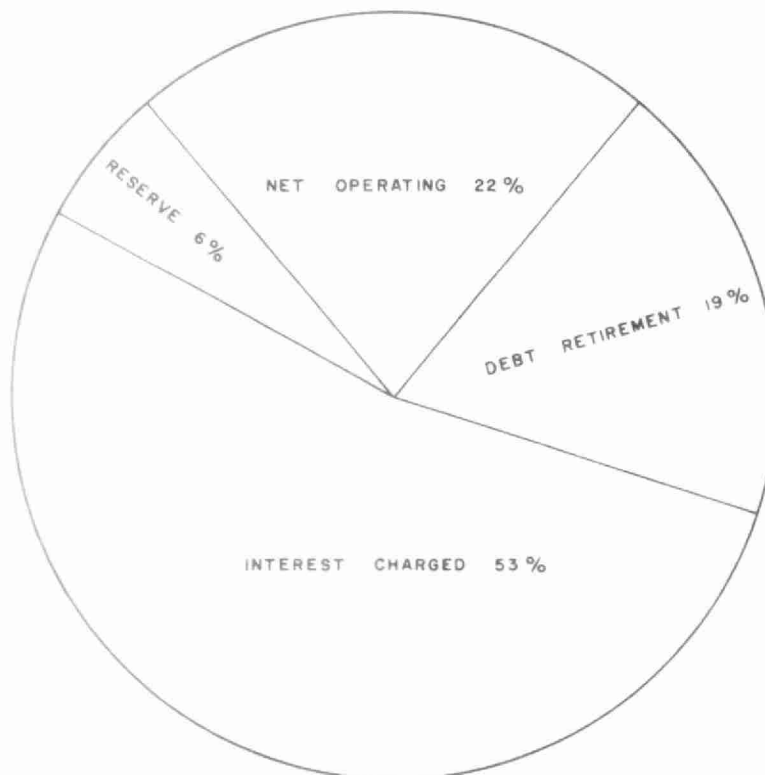
| YEAR | M.G TREATED | TOTAL COST | COST PER FAMILY PER YEAR | COST PER THOUSAND GALLONS |
|------|-------------|------------|--------------------------|---------------------------|
| 1964 | 27.881      | \$6,258.23 | * \$18.68                | \$0.22                    |
| 1965 | 40.728      | \$7,884.37 | \$23.52                  | \$0.19                    |
| 1966 | 45.360      | \$7,241.30 | \$21.61                  | \$0.16                    |

\* BASED ON ESTIMATED ANNUAL POPULATION AND 3.9 PERSONS PER FAMILY

## 1966 OPERATING COSTS



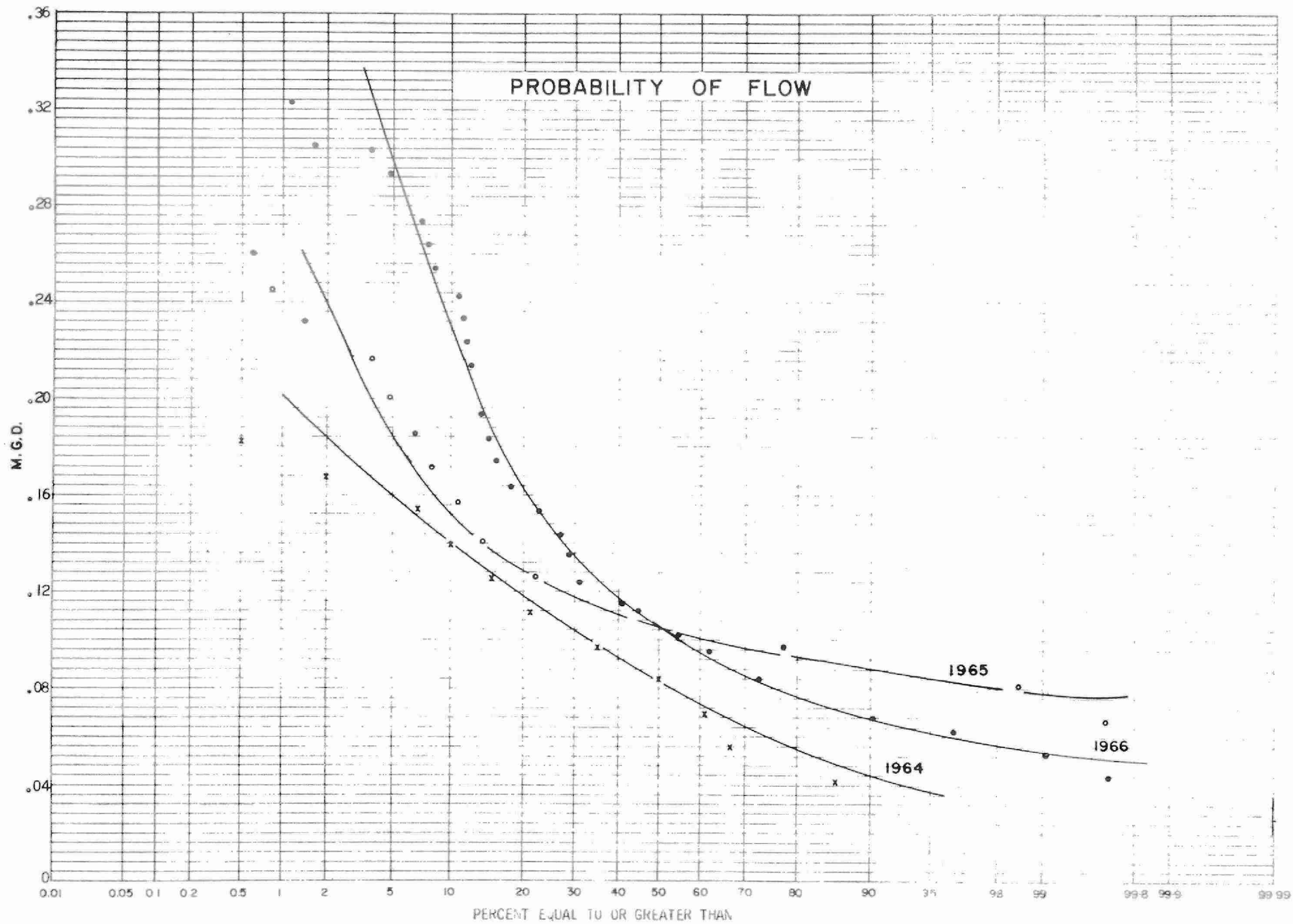
## TOTAL ANNUAL COST

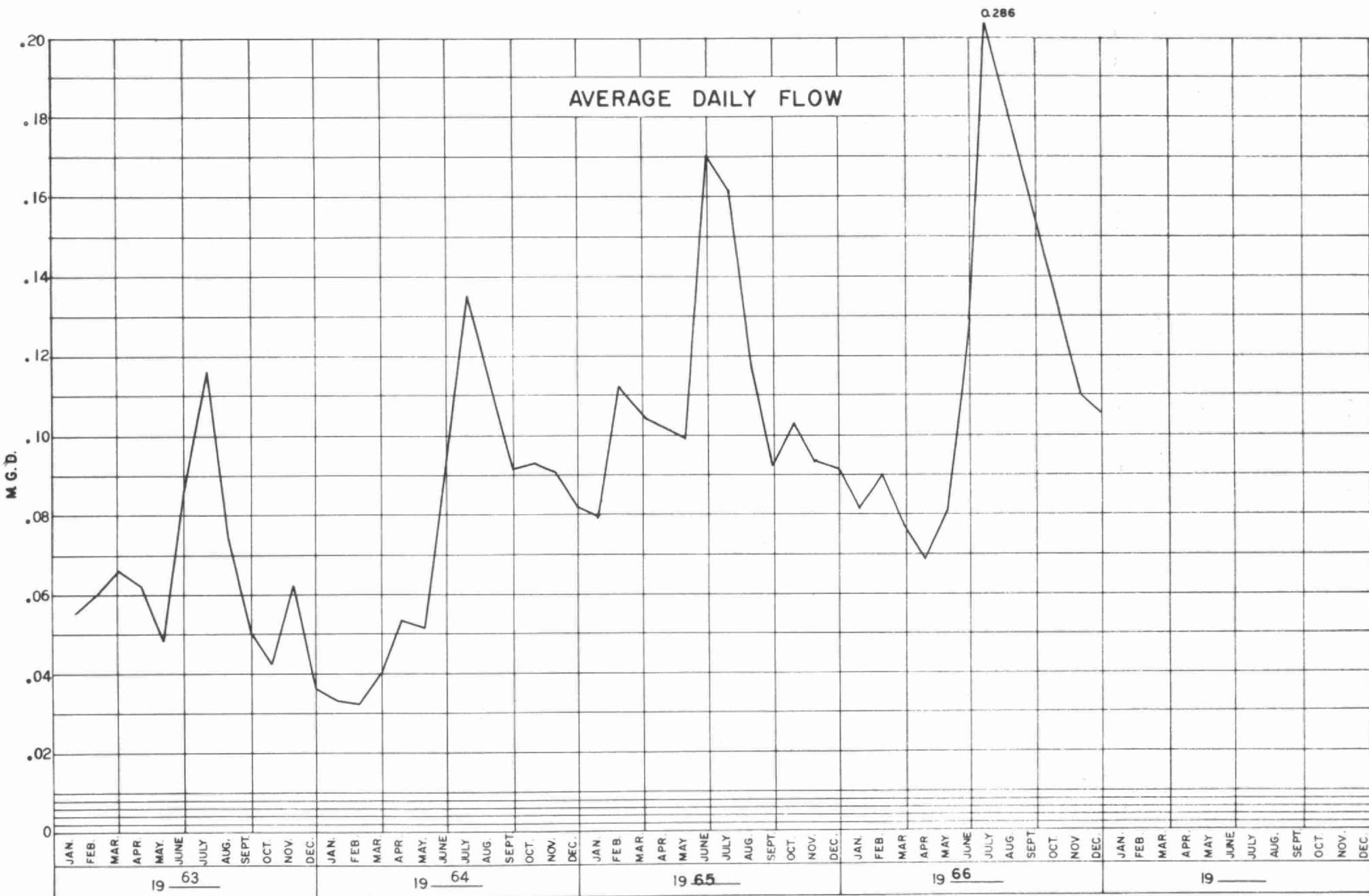


## Process Data

The original plant design capacity was 130,000 gallons per day. After the pressure-sensing telemetering system was installed in 1965, automatic sequencing of the pump increased the plant capacity to approximately 180,000 gallons per day. It may be seen from the probability of flow curves that during 1966, 180,000 gallons per day was exceeded approximately 17 percent of the time; whereas in 1965, it was exceeded only five percent of the time.

During these periods of excessive flow, the standby/fire pump was operated to meet the demand. This is an undesirable situation, since the fire pump was not intended for continuous duty and it pumps unfiltered but chlorinated water. This water was combined with the filtered output of the two service pumps for discharge to the distribution system.





## CHLORINATION

| MONTH     | PLANT<br>FLOW (MG) | POUNDS<br>CHLORINE | DOSAGE<br>RATE (PPM) |
|-----------|--------------------|--------------------|----------------------|
| JANUARY   | 2.504              | 39                 | 1.56                 |
| FEBRUARY  | 2.487              | 27                 | 1.09                 |
| MARCH     | 2.397              | 41                 | 1.71                 |
| APRIL     | 2.034              | 34                 | 1.67                 |
| MAY       | 2.502              | 52                 | 2.08                 |
| JUNE      | 3.739              | 117                | 3.13                 |
| JULY      | 8.853              | 199                | 2.25                 |
| AUGUST    | 5.546              | 108                | 1.95                 |
| SEPTEMBER | 4.678              | 61                 | 1.30                 |
| OCTOBER   | 4.072              | 50                 | 1.23                 |
| NOVEMBER  | 3.300              | 33                 | 1.00                 |
| DECEMBER  | 3.248              | 38                 | 1.17                 |
| TOTAL     | 45.360             | 719                | -                    |
| AVERAGE   | 3.780              | 60                 | 1.59                 |

## COMMENTS

A chlorine residual of at least 0.5 ppm was maintained in the treated water leaving the plant to ensure adequate disinfection. Bacteriological samples taken at the plant and at various locations in the distribution system indicated that disinfection was achieved.



The plant filtering capacity was exceeded during periods of peak summer flow. The plant has operated well under the capable supervision of the Chief Operator, and has produced a good-quality, economical water for the Village.

## **CONCLUSIONS**

The plant capacity should be increased. Particular attention should be given to the provision of storage capacity on the system to help accommodate peak flows. As an interim measure before this is done, some form of water usage restrictions should be imposed to decrease the demand.

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